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[CLAIMS]

1. A heat-sensitive lithographic printing plate precursor comprising
a support having a hydrophilic surface and an oleophilic coating,
5 provided on the hydrophilic surface, said coating comprising
 - an infrared light absorbing agent and
 - a polymer which comprises a phenolic monomeric unit wherein
the phenyl group of the phenolic monomeric unit is
substituted by a group having the structure -N=N-Q, wherein
10 the -N=N- group is covalently bound to a carbon atom of the
phenyl group and wherein Q is an aromatic group.
2. A lithographic printing plate precursor according to claim 1
wherein Q is a group comprising at least one heteroatom.
3. A lithographic printing plate precursor according to claim 2
15 wherein said heteroatom is a nitrogen, an oxygen or a sulfur
atom.
4. A lithographic printing plate precursor according to claims 1, 2,
or 3 wherein Q has the structure -A-(T)_n
wherein A is a mono-cyclic 5- or 6-membered aromatic group or a
20 5- or 6-membered aromatic ring annelated with another ring
system,
wherein n is an integer, selected between 0 and the maximum
available positions on the aromatic group A,
wherein each T group is selected from -SO₂-NH-R¹, -NH-SO₂-R⁴,
25 -CO-NR¹-R², -NR¹-CO-R⁴, -NR¹-CO-NR²-R³, -NR¹-CS-NR²-R³,
-NR¹-CO-O-R¹, -O-CO-NR¹-R², -O-CO-R⁴, -CO-O-R², -CO-R³, -SO₃-R¹,
-O-SO₂-R⁴, -SO₂-R¹, -SO-R⁴, -P(=O)(-O-R¹)(-O-R²),
-O-P(=O)(-O-R¹)(-O-R²), -NR¹-R², -O-R², -S-R², -N=N-R⁴, -CN, -NO₂,
a halogenide or -M-R¹, wherein M represents a divalent linking
30 group containing 1 to 8 carbon atoms,

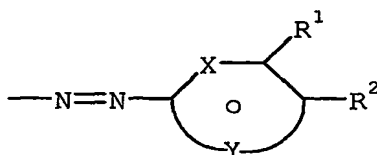
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wherein R^1 , R^2 and R^3 are each independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

wherein R^4 and R^5 are selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

or wherein at least two groups selected from each R^1 to R^5 together represent the necessary atoms to form a cyclic structure.

5. A lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises the following formula



wherein X is CR^3 , NR^4 or N,

wherein Y denotes the necessary atoms to form a 5- or 6-membered aromatic ring, said atoms being selected from the group consisting of CR^3 , NR^4 , N, S or O,

wherein each R^1 , R^2 and R^3 is selected from hydrogen, an

optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, $-SO_2-NH-R^5$, $-NH-SO_2-R^7$, $-CO-NR^5-R^6$, $-NR^5-CO-R^7$, $-O-CO-R^7$, $-CO-O-R^5$, $-CO-R^5$, $-SO_3-R^5$, $-SO_2-R^5$, $-SO-R^7$, $-P(=O)(-O-R^5)(-O-R^6)$, $-NR^5-R^6$, $-O-R^5$, $-S-R^5$, $-CN$, $-NO_2$, halogen or $-M-R^5$, wherein M represents a divalent linking group containing 1 to 8 carbon atoms,

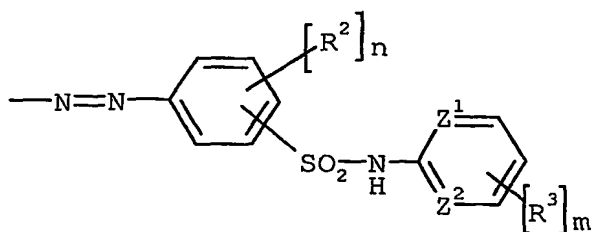
wherein R^4 , R^5 and R^6 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl,

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heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,
 wherein R^7 is selected from an optionally substituted alkyl,
 alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl,
 aralkyl or heteroaralkyl group,

or wherein at least two groups selected from each R^1 to R^7
 together represent the necessary atoms to form a cyclic
 structure.

6. A lithographic printing plate precursor according to any of
 claims 1 to 3 wherein the $-N=N-Q$ group comprises the following
 formula



wherein Z^1 and Z^2 are independently selected from CR^1 or N,

wherein R^1 is selected from hydrogen or an optionally substituted
 alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl,
 heteroaryl, aralkyl or heteroaralkyl group,

wherein n is 0, 1, 2, 3 or 4,

wherein m is 0, 1, 2 or 3,

wherein R^2 and R^3 are independently selected from hydrogen, an
 optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl,
 heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

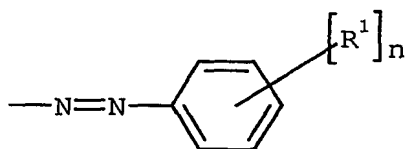
$-SO_2-NH-R^4$, $-NH-SO_2-R^6$, $-CO-NR^4-R^5$, $-NR^4-CO-R^6$, $-O-CO-R^6$,
 $-CO-O-R^4$, $-CO-R^4$, $-SO_3-R^4$, $-SO_2-R^4$, $-SO-R^6$, $-P(=O)(-O-R^4)(-O-R^5)$,
 $-NR^4-R^5$, $-O-R^4$, $-S-R^4$, $-CN$, $-NO_2$, halogen or $-M-R^4$, wherein M
 represents a divalent linking group containing 1 to 8 carbon
 atoms,

wherein R^4 and R^5 are independently selected from hydrogen or an

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optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^6 is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1 to R^6 together represent the necessary atoms to form a cyclic structure.

7. A lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises the following formula



wherein n is 0, 1, 2, 3, 4 or 5,

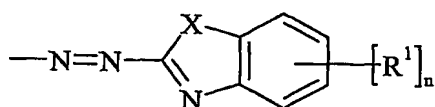
wherein each R^1 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, $-\text{SO}_2\text{—NH—R}^2$, $-\text{NH—SO}_2\text{—R}^4$, $-\text{CO—NR}^2\text{—R}^3$, $-\text{NR}^2\text{—CO—R}^4$, $-\text{O—CO—R}^4$, $-\text{CO—O—R}^2$, $-\text{CO—R}^2$, $-\text{SO}_3\text{—R}^2$, $-\text{SO}_2\text{—R}^2$, $-\text{SO—R}^4$, $-\text{P(=O)(—O—R}^2\text{)(—O—R}^3\text{)}$, $-\text{NR}^2\text{—R}^3$, $-\text{O—R}^2$, $-\text{S—R}^2$, $-\text{CN}$, $-\text{NO}_2$, a halogen or $-\text{M—R}^2$, wherein M represents a

divalent linking group containing 1 to 8 carbon atoms, wherein R^2 and R^3 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^4 is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

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or wherein at least two groups selected from each R^1 to R^4 together represent the necessary atoms to form a cyclic structure.

8. A lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises the following formula



wherein n is 0, 1, 2, 3 or 4,

wherein each R^1 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, $-SO_2-NH-R^2$, $-NH-SO_2-R^4$, $-CO-NR^2-R^3$, $-NR^2-CO-R^4$, $-O-CO-R^4$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-SO_2-R^2$, $-SO-R^4$, $-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$, a halogen or $-M-R^2$, wherein M represents a

divalent linking group containing 1 to 8 carbon atoms,

wherein X is O, S or NR^5 ,

wherein R^2 , R^3 and R^5 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

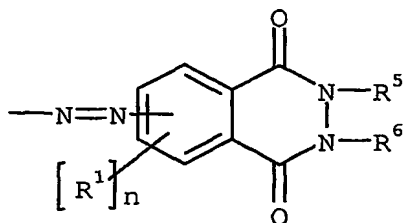
wherein R^4 is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

or wherein at least two groups selected from each R^1 to R^5 together represent the necessary atoms to form a cyclic structure.

9. A lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises the following

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formula



wherein n is 0, 1, 2 or 3,

wherein each R¹ is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, -SO₂-NH-R², -NH-SO₂-R⁴, -CO-NR²-R³, -NR²-CO-R⁴, -O-CO-R⁴, -CO-O-R², -CO-R², -SO₃-R², -SO₂-R², -SO-R⁴, -P(=O)(-O-R²)(-O-R³), -NR²-R³, -O-R², -S-R², -CN, -NO₂, a halogen or -M-R², wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R², R³, R⁵ and R⁶ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

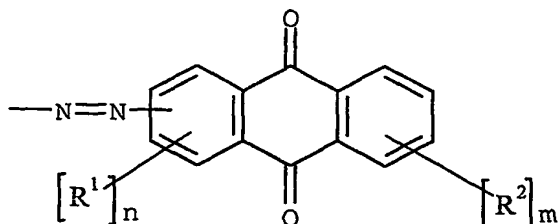
wherein R⁴ is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

or wherein at least two groups selected from each R¹ to R⁴ together represent the necessary atoms to form a cyclic structure,

or wherein R⁵ and R⁶ together represent the necessary atoms to form a cyclic structure.

10.A lithographic printing plate precursor according to any of claims 1 to 3 wherein the -N=N-Q group comprises the following formula

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wherein n is 0, 1, 2 or 3,

wherein m is 0, 1, 2, 3 or 4,

wherein each R^1 and R^2 are independently selected from hydrogen,

an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

$-SO_2-NH-R^3$, $-NH-SO_2-R^5$, $-CO-NR^3-R^4$, $-NR^3-CO-R^5$, $-O-CO-R^5$,

$-CO-O-R^3$, $-CO-R^3$, $-SO_3-R^3$, $-SO_2-R^3$, $-SO-R^5$, $-P(=O)(-O-R^3)(-O-R^4)$,

$-NR^3-R^4$, $-O-R^3$, $-S-R^3$, $-CN$, $-NO_2$, a halogen or $-M-R^3$, wherein M

represents a divalent linking group containing 1 to 8 carbon atoms,

wherein R^3 and R^4 are independently selected from hydrogen or an

optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

wherein R^5 is selected from an optionally substituted alkyl,

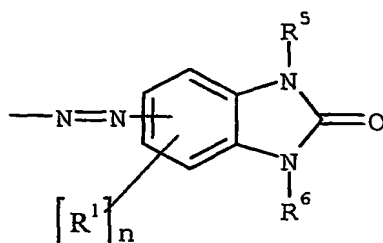
alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

or wherein at least two groups selected from each R^1 to R^5

together represent the necessary atoms to form a cyclic structure.

11.A Lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises the following formula

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wherein n is 0, 1, 2 or 3,

wherein each R^1 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, $-SO_2-NH-R^2$, $-NH-SO_2-R^4$, $-CO-NR^2-R^3$, $-NR^2-CO-R^4$, $-O-CO-R^4$, $-CO-O-R^2$, $-CO-R^2$, $-SO_3-R^2$, $-SO_2-R^2$, $-SO-R^4$, $-P(=O)(-O-R^2)(-O-R^3)$, $-NR^2-R^3$, $-O-R^2$, $-S-R^2$, $-CN$, $-NO_2$, a halogen or $-M-R^2$, wherein M represents a

divalent linking group containing 1 to 8 carbon atoms,

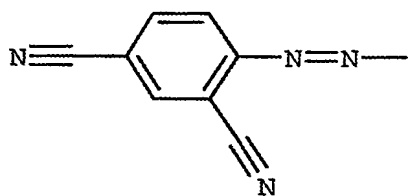
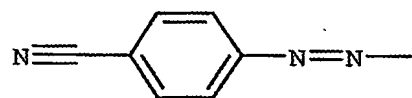
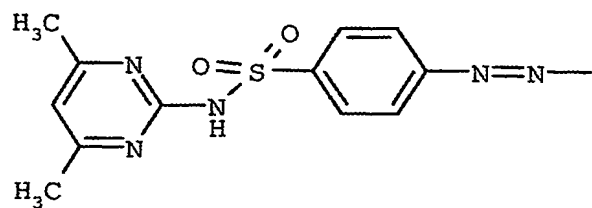
wherein R^2 , R^3 , R^5 and R^6 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

wherein R^4 is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

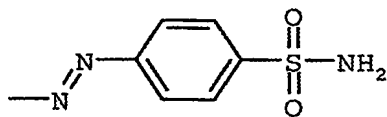
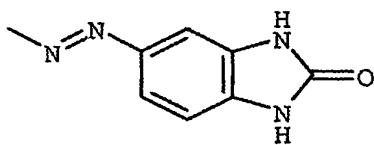
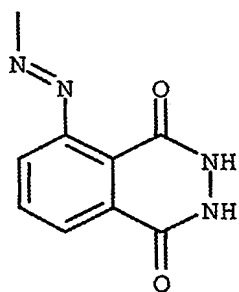
or wherein at least two groups selected from each R^1 to R^6 together represent the necessary atoms to form a cyclic structure.

12.A lithographic printing plate precursor according to any of claims 1 to 3 wherein the $-N=N-Q$ group comprises one of the following formula:

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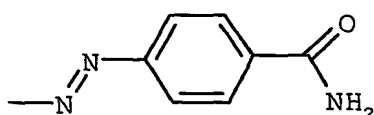
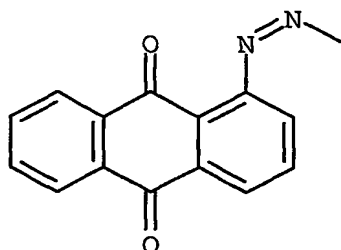


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- 5 13.A lithographic printing plate precursor according to any of the preceding claims, wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol.
- 14.A lithographic printing plate precursor according to any of the preceding claims, wherein said coating further comprises a
10 dissolution inhibitor and wherein said precursor is a positive working lithographic printing plate precursor.
- 15.A lithographic printing plate precursor according to claim 14, wherein said dissolution inhibitor is selected from
- an organic compound which comprises at least one aromatic group and a hydrogen bonding site, and/or
 - a polymer or surfactant comprising siloxane or
15 perfluoroalkyl units .
- 16.Use of a polymer which comprises a phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by a group having the structure -N=N-Q wherein the
20 -N=N- group is covalently bound to a carbon atom of the phenyl group and wherein Q is an aromatic group, in a coating of a positive working heat-sensitive lithographic printing plate precursor, further comprising
- an infrared absorbing agent and
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- a dissolution inhibitor,
for increasing the chemical resistance of the coating against
printing liquids and press chemicals.

17. A lithographic printing plate precursor according to any of
5 claims 1 to 13, wherein said coating further comprising a latent
Brönsted acid and an acid-crosslinkable compound and wherein said
precursor is a negative working lithographic printing plate
precursor.

18. Use of a polymer which comprises a phenolic monomeric unit
10 wherein the phenyl group of the phenolic monomeric unit is
substituted by a group having the structure $-N=N-Q$ wherein the
 $-N=N-$ group is covalently bound to a carbon atom of the phenyl
group and wherein Q is an aromatic group,
in a coating of a negative working heat-sensitive lithographic
15 printing plate precursor, further comprising

- an infrared absorbing agent,
- a latent Brönsted acid and
- an acid-crosslinkable compound,

for increasing the chemical resistance of the coating against
20 printing liquids and press chemicals.

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